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EXAMINER

HEWITT, JAMES M

ART UNIT	PAPER NUMBER
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3679

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/580,607	Applicant(s) DUBEDOUT ET AL.	
	Examiner JAMES M. HEWITT	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/29/10, 4/7/10 and 5/24/10.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 32-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31, 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 32-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/23/09.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-31 and 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 22-25, it is unclear as to how the inner groove can be said to face the local added thickness.

In claim 4, it is unclear as to what is meant by the phrase "substantially continuously".

In claim 6, it is unclear as to what is meant by the phrase "substantially continuously".

In claim 7, line 2, "the second portion" lacks proper antecedent basis.

In claim 16, it is unclear as to how "the product of the smallest section of a common portion of said tube" constitutes a product; a product requires two elements.

Art Unit: 3679

Further, what is a *common portion* of the tube; how can one tube have a common portion. It is unclear as to what defines as "the efficiency" of the joint.

In claim 17, the terms "conical-type and cylindrical-type threads" render the claim indefinite because it is unclear as to what structure is being claimed. The use of the word "type" implies that the terms encompass more than just conical and cylindrical threads, but it is not clear what else would be included.

In claim 27, it is unclear as to what is meant by the phrase "substantially continuous".

In claim 30, it is unclear as to what is meant by the phrase "substantially symmetrical".

In claim 30, the term "female-type connection" renders the claim indefinite because it is unclear as to what structure is being claimed. The use of the word "type" implies that the terms encompass more than just female connections, but it is not clear what else would be included.

In claim 31, what defines a *common portion* of the tubes; also, it is unclear as to what defines as "the efficiency" of the joint.

In claim 37, it is unclear as to what is meant by the phrase "substantially continuously".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 12-19, 26 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Verge et al (WO 03/060370 A1).

With reference to U.S. Patent Publication US 2005/0172472 A1, which corresponds to WO 03/060370 A1:

As to claim 1 and with reference to FIG. 22 and 23, Verge et al disclose an expandable tubular joint, comprising: a first tubular element (1) comprising a first part, provided with a male thread, and a second part extending said first part and comprising i) a first outer surface, ii) a first annular lip (13) having a first axial abutment surface (as at 24) and a first inner surface and delimited by said first outer surface over a part of the axial length thereof, and iii) a second abutment surface, and a second tubular element (2) comprising i) a female thread, matching the male thread and screwed thereto, ii) a second annular lip having a third abutment surface, a second outer surface, arranged to face said first inner surface, and a second inner surface, iii) a fourth axial abutment surface (as at 24), and iv) a third inner surface extending between said fourth axial abutment surface and said female thread and defining with said second outer surface and said fourth abutment surface an annular recess corresponding to said first lip, wherein said first tubular element comprises a selected local annular added thickness

Art Unit: 3679

(at least that portion radially inward of the innermost surface of the second tubular) in the region of a fourth inner surface extending the second abutment surface, wherein said second tubular element comprises, at a selected location of said third inner surface, an inner annular groove (44) that faces, in a radial direction, said first outer surface and that faces, in the radial direction, the local annular added thickness in the region of the fourth inner surface and wherein said first and second tubular elements are shaped in such a way that said first lip is accommodated in said annular recess, and (i) said second abutment surface rests against said third abutment surface or (ii) said first abutment surface rests against said fourth abutment surface so as to allow, during a diametral expansion involving plastic deformation subsequently carried out on the expandable tubular joint, the formation, in the region of said first outer surface, of an annular shoulder having at least a part of the shape of the groove and being in sealing interference contact therewith (see FIG. 23).

As to claim 2, Verge et al disclose the joint according to claim 1, wherein said first and second tubular elements are shaped in such a way that, after said expansion, another sealing interference contact is defined between an inner end part of said first lip and said second outer surface.

As to claim 3, Verge et al disclose the joint according to claim 1, wherein said local annular added thickness increases in the direction (downward) of said second abutment surface.

Art Unit: 3679

As to claim 4, Verge et al disclose the joint according to claim 3, wherein said local annular added thickness increases substantially continuously at a slope between approximately 5° and approximately 30° .

As to claim 5, Verge et al disclose the joint according to claim 1, wherein said first tubular element initially has in the region of said first part, over its inner surface opposing said male thread, a conical neck (as at 1) in which is defined a local annular set-back.

As to claim 6, Verge et al disclose the joint according to claim 5, wherein said neck increases substantially continuously at a slope relative to the longitudinal direction of between approximately 2° and approximately 20° .

As to claim 7, Verge et al disclose the joint according to claim 3, wherein a maximum (given) added thickness of a second portion is initially less than a (given) value selected as a function of a (given) diameter of a (given) drift.

As to claim 8, Verge et al disclose the joint according to claim 3, wherein said second inner surface of the second lip initially has a selected local annular added thickness (defined by downward taper in FIG. 22) in a zone adjacent to said third abutment surface, so as to increase the deformation of said first lip in the direction of said groove during the expansion.

As to claim 9, Verge et al disclose the joint according to claim 8, wherein said added thickness of the second lip is less than the added thickness of the first tubular element.

As to claim 10, Verge et al disclose the joint according to claim 3, wherein said added thickness of the second lip is initially less than a (given) value selected as a function of a (given) diameter of a (given) drift.

As to claim 12, Verge et al disclose the joint according to claim 1, wherein said groove initially comprises at least two curvilinear *portions*.

As to claim 13, Verge et al disclose the joint according to claim 12, wherein said curvilinear portions initially have substantially identical radii of curvature (about 10mm).

As to claim 14, Verge et al disclose the joint according to claim 13, wherein said radius of curvature is initially between approximately 2 mm and approximately 20 mm.

As to claim 15, Verge et al disclose the joint according to claim 12, wherein the two curvilinear portions are separated by a substantially cylindrical central *portion*.

As to claim 16 and as best understood, Verge et al disclose the joint according to claim 12, wherein at least one of the first and second tubular elements forms part of a great length tube and in that said groove initially has a radial depth, the maximum value of which is selected such that the material section at the bottom of the groove is greater than the product of the smallest section of a common portion of said tube or tubes, and the efficiency of the joint under tension.

As to claim 17, Verge et al disclose the joint according to claim 1, wherein said male and female threads are selected from a group consisting of conical-type and cylindrical-type threads and are each formed over at least one tubular element portion.

Art Unit: 3679

As to claim 18, Verge et al disclose the joint according to claim 1, wherein said first and second tubular elements are shaped in such a way that, after screwing, said first lip is axially compressed in an elastic deformation region.

As to claim 19, Verge et al disclose the joint according to claim 1, wherein said first and second tubular elements are shaped in such a way that, during said screwing, said first abutment surface rests against said fourth abutment surface, then said second abutment surface rests against said third abutment surface.

As to claim 26, Verge et al disclose the joint according to claim 1, wherein said first tubular element initially has, in the region of said first outer surface and before said first part, a conical chamfer defining a local annular set-back sloping radially inward.

As to claim 29, Verge et al disclose the joint according to claim 1, wherein said first tubular element is provided with a first rounded outer surface.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 22, 27-28 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verge et al.

As to claim 11, in Verge et al, it is unclear as to whether said second tubular element initially has a ratio between an extension of said second lip in the longitudinal

Art Unit: 3679

direction and an extension of said recess in a transverse plane of between approximately 1 and approximately 3. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in a transverse plane of between approximately 1 and approximately 3.

As to claim 22, in Verge et al, it is unclear as to whether said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle between *approximately* 0.1° and 15°. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle between approximately 0.1° and 15°.

As to claim 27, in Verge et al, it is unclear as to whether said chamfer has a substantially continuous lip relative to the longitudinal direction of between approximately 8° and 12°. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such

Art Unit: 3679

that said chamfer has a substantially continuous slip relative to the longitudinal direction of between approximately 8° and 12° .

As to claim 28, in Verge et al, it is unclear as to whether the second outer surface of the second lip initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of between approximately 8° and approximately 12° . Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that the second outer surface of the second lip initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of between approximately 8° and approximately 12° .

In claim 37, in Verge et al it is unclear as to whether said local annular added thickness increases substantially continuously at a slope between approximately 10° and approximately 20° . Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said local annular added thickness increases substantially continuously at a slope between approximately 10° and approximately 20° .

Art Unit: 3679

As to claim 38, in Verge et al, it is unclear as to whether said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in a transverse plane of between approximately 1.2 and approximately 1.6. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in a transverse plane of between approximately 1.2 and approximately 1.6.

As to claim 39, in Verge et al, it is unclear as to whether the second outer surface of the second lip initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of approximately 10°. Nevertheless, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that the second outer surface of the second lip initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of approximately 10°.

Art Unit: 3679

Claims 20-21 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verge et al in view of Metcalfe et al (WO 98/42947).

As to claims 20-21, Verge et al fail to teach that said second and third abutment surfaces initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer surface after said screwing and prior to said expansion, wherein said inclinations are initially between approximately $+5^{\circ}$ and approximately $+30^{\circ}$.

Metcalfe et al teach a similar lipped pipe connector, wherein cooperating abutment surfaces (on the inner lips) initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer surface after said screwing and prior to said expansion, wherein said inclinations are initially between approximately $+5^{\circ}$ and approximately $+30^{\circ}$. As should be understood such inclinations provide more surface contact area and thus promote better sealing contact and stability for the joint.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second and third abutment surfaces initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer surface after said screwing and prior to said

Art Unit: 3679

expansion, wherein said inclinations are initially between approximately $+5^{\circ}$ and approximately $+30^{\circ}$, in order to promote better sealing contact and stability for the joint.

As to claim 30-31, Verge et al disclose all of the limitations of claims 30-31 as described in the above 102 rejection of claim 1, except that said second tubular element forms part of a substantially symmetrical female/female-type connection sleeve and said first tubular element forms part of an end of a great length tube; and said sleeve comprises a central portion extended on either side by two second tubular elements and initially provided, over an outer surface, with an annular zone having a reduced thickness selected such that the initial thickness of said sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of the tubes, at the ends of which are formed said first tubular elements element, and the efficiency of the joint. Nevertheless, Metcalfe '947 teaches that it is known in the art to use second tubular elements to form two opposing ends of a female/female connection sleeve (page 8, line 14, "tubular connector," Fig. 2 #16), separated by a central portion (page 8, lines 17-18, "intermediate portion," Fig. 2 #22) initially provided, over an outer surface, with an annular zone having an initial reduced thickness (page 8, lines 26-28, "the connector end portions are upset, that is they include portions of greater wall thickness than the tubing and are of a greater diameter than the tubing," Fig. 2) selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint (the section of the sleeve in the region of zone 22 is at least equal to the critical section (minimum thickness) of the tubular elements, as described on page 8, lines 24-25, "the

Art Unit: 3679

connector intermediate portion 22 is of substantially the same wall thickness as the tubing 24, 25," (alternatively, if the thickness of the annular lip 32 or 33 is the minimum thickness, the section of the sleeve at the zone of reduced thickness is clearly greater than this critical section), also see the discussion of "the product of the section of a common portion of said tubes and the efficiency of the joint" in paragraph 12 above). Therefore, it would have been obvious to one of ordinary skill in the art to provide the second tubular elements or Verge in the conventional form of two opposing ends of a female/female connection sleeve (which is generally disclosed by Verge in paragraph 2, as discussed above), such as that exemplified by Metcalfe '947.

Further, it would have been obvious to provide the connection sleeve with an annular zone having an initial reduced thickness selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint, as taught by Metcalfe '947, so that "the connector 16 and the tubing lengths 24, 25 will expand in corresponding and predictable manner, minimising the occurrence of irregularities in the internal diameter of the expanded tubing string." Metcalfe '947, page 10, lines 8-11.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verge et al in view of Klementich (US 5,462,315).

Verge et al do not disclose threads provided with a carrier flank having a negative angle of between approximately -3° and approximately -15° (claim 12) and a stabbing flank having a positive angle of between approximately $+10^{\circ}$ and

Art Unit: 3679

approximately $+30^\circ$ (claim 13). Nevertheless, it is old and well known per se in the relevant art to use a carrier flank having a negative angle of between approximately -3° and approximately -15° and a stabbing flank having a positive angle of between approximately $+10^\circ$ and approximately $+30^\circ$, as evidenced by Klementich '315 (see Figs. 6A-6D, illustrating that it is known in the art to select the claimed flank angles from among a finite set of known alternatives). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the threads of the of Verge with flank angles such as those exemplified by Klementich '315.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verge et al in view of Yamamoto et al (US 5,419,595).

Verge et al do not disclose male and female threads arranged to have, after screwing and prior to expansion, an axial clearance between their stabbing flanks of between approximately 0.05 mm and approximately 0.3 mm. Nevertheless, it is old and well known per se in the relevant art to use an axial clearance between stabbing flanks, as evidenced by Yamamoto '095 (column 2, lines 23- 25, "dimensional tolerances for API standards allow a gap of from 0.03 to 0.19 mm between the stab flanks"). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the flanks of Verge et al with an axial clearance such as those taught by Yamamoto '095.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. HEWITT whose telephone number is (571)272-7084. The examiner can normally be reached on M-F, 930am-600pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James M Hewitt/
Primary Examiner, Art Unit 3679